REMARKS

Claims 1-16 are pending and under consideration.

ITEM 5: ALLOWED CLAIMS

Claims 9-16 are allowed. Applicant thanks the Examiner for the indication of allowable subject matter.

ITEM 4, PAGES 2-3: REJECTION OF CLAIMS 1-6 UNDER 35 U.S.C. §102(b) AS BEING ANTICIPATED BY KAWAI ET AL. (EP 0940704 A2)

The Examiner rejects independent claim 1(and claims 2-6 dependent thereon) under 35 U.S.C. §102(b) as being anticipated by Kawai. (Action at pages 2-4).

Crystal Positioned So Direction Of Combined Magnetic Field, Except For Direction of First Magnetic Field Is Variable Between Easy and Hard Magnetization Axis Of The Crystal Not Taught By Kawai

As provided in MPEP §706.02 entitled Rejection on Prior Art, anticipation requires that the reference must teach every aspect of a claimed invention. Kawai does not support an anticipatory-type rejection by not describing features recited in the present application's claims.

Independent claim 1 recites a Faraday rotor including a "magneto-optical crystal (is) positioned in such a manner that a direction of a combined magnetic field of the first and second magnetic fields, except for a direction of the first magnetic field, is variable intermediately between an easy magnetization axis and hard magnetization axis of the magneto-optical crystal." (Emphasis added).

The Examiner contends that these features are taught by Kawai, citing paragraph 0028, lines 25-30, element 33 and FIG. 11. (Action at page 2). However, in the lines cited by the Examiner, Kawai discusses (paragraph 0028, lines 25-30) that:

> (l)ight rays. . . passing through a polarizer 32, a Faraday element 33. . . A Faraday element 33 is applied with a magnetic filed in the direction parallel to the optical axis by a pair of permanent magnets 40 and 41 to be turned into a magnetic saturation state.

Referring to FIG. 11, Kawai discusses (paragraph 0033, lines 24-26):

> . . . magnetization of a garnet single crystal 60 is easy to be directed to the <111> orientation and the <1-11> orientating as the easy axes and is hard to be directed to the <001> orientation as the hard axis.

Applicant submits that Kawai does not teach, in the lines cited by the Examiner, or anywhere else that a magneto-optical crystal is positioned in such a manner that a direction of a combined magnetic field of the first and second magnetic fields, except for a direction of the first magnetic field, is variable intermediately between an easy magnetization axis and hard magnetization axis of the magneto-optical crystal.

Features Of Dependent Claims Not Taught By Kawai

In addition, features of dependent claims are not taught by Faraday. For example, dependent claim 2 recites the Faraday rotator including "a voltage source whose output voltage has no temperature coefficient."

The Examiner contends these features are taught by Kawai citing paragraph 0028, lines 31-333 . However, in the lines cited Kawai discusses:

> . . . synthetic magnetic field of the magnetic fields applied by the permanent magnets 40 and 41 and the electromagnet 42 is varied by changing a coil current flowing in the electromagnet 42.

Kawai, does not teach, as the Examiner contends a voltage source whose output voltage has no temperature coefficient.

Conclusion

Since features of independent claim 1(and claims 2-6 dependent thereon) are not taught by Kawai, the rejection should be withdrawn and claims 1-6 allowed.

ITEM 4, PAGES 3-4: REJECTION OF CLAIMS 7-8 UNDER 35 U.S.C. §102(b) AS BEING ANTICIPATED BY KAWAI ET AL.

The Examiner rejects independent claim 7 (and claim 8 dependent thereon) under 35 U.S.C. §102(b) as being anticipated by Kawai. (Action at pages 3-4).

Crystal Positioned So Direction Of Combined Magnetic Field, Except For Direction of First Magnetic Field Is Variable Between Easy and Hard Magnetization Axis Of Crystal Not Taught By Kawai

Kawai does not support an anticipatory-type rejection by not describing features recited in claims 7 and 8.

Independent claim 7 recites a variable optical attenuator including a "magneto-optical crystal is positioned in such a manner that a direction of a combined magnetic field of the first and second magnetic fields, except for a direction of the first magnetic field, is variable intermediately between an easy magnetization axis and hard magnetization axis of the magneto-optical crystal." (Emphasis added).

The Examiner contends these features are taught by Kawai, as in the rejection of claim 1 (Action at page 3). However, as discussed above, Applicant submits that Kawai does not teach, in the lines cited by the Examiner, or anywhere else, that a magneto-optical crystal is positioned in such a manner that a direction of a combined magnetic field of the first and second magnetic fields, except for a direction of the first magnetic field, is variable intermediately between an easy magnetization axis and hard magnetization axis of the magneto-optical crystal.

Conclusion

Since features of independent claim 7 (and claim 8 dependent thereon) are not taught by Kawai, the rejection should be withdrawn and the claims allowed.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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